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THERAPEUTICS.

UNDER THE CHARGE OF

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ANTITOXIN AND SPERMINE.

DR. G. E. KRIEGER writes of the relation of these drugs to natural chemism, and believes that the following conclusions are justifiable: 1. The reaction caused by pathogenic germs is a leucocytosis. 2. The effect of leucocytosis in a normally alkaline blood is the production of active principles from the cell-nuclein, the representation of which is spermine. 3. The effect of intra-organic oxidation is to cause an increase of vital resistance, or a certain degree of immunity. 4. It is possible to aid this physiological process of protecting the organism by the introduction of the serum of animals which have produced antitoxic elements, or directly by injections of spermine. The latter seems especially indicated in diseases in which the elimination of this physiological stimulant has been observed, and the employment of this remedy, which always causes increased cellular activity, is advised in every instance when an infection or even a depressed condition exists. The effect obtained in a number of diseases which, according to recent discoveries, seem, like the so-called infectious diseases, also to be based upon parasitic influence—as ascending spinal paralysis, poliomyelitis, tabes dorsalis, and sclerosis—certainly encourages further experiments.—*Notes on New Remedies*, 1895, No. 2, p. 17.

THE TREATMENT OF GOUT.

DR. KOLISCH states that it is undeniable that a urate diathesis exists in the gouty condition, but the preceding morbid changes in the physiological disturbance appear to be due to the breaking up of nuclein ($C_{29}H_{49}N_9P_3O_2$) and the formation of alloxurine bodies ($C_4N_2H_2O_4$). The complex chemical change results in uric acid ($C_3H_4N_4O_3$) and xanthine bases ($C_5H_4N_4O_2$), which are comprehended under the term alloxurine bodies. Earlier investigation shows that a combination of diseases of the kidneys and uric acid

increases the elimination of these alloxurine bodies. In each one of the urate diatheses there is a greater amount of nuclein broken up or decomposed, which increases the fragmentary products or lower bodies of the series. We may therefore look upon nuclein and its decomposition as the chemical body which produces the characteristic symptoms in gout from a diseased kidney. According to this view, the alkalies are useful; an excess of albuminoid food must be guarded against, as this form of diet rapidly increases the leucocytosis in the alimentary canal, which finally augments the nuclein product. A moderate use of albumin is not contraindicated, yet tissues, rich in cellular matter, such as nuclein, should be avoided. Boiled meat may be allowed, since the kidneys eliminate the noxious extractive material, but the soup prepared from this meat should not be allowed. Carbohydrates are harmless, and fat may be used as a substitute for albumin. Everything in the vegetable kingdom may be allowed, excepting asparagus, which is absolutely forbidden. Alcohol should also be prohibited. Over-exertion in daily exercise should be carefully guarded against, because this greatly increases the splitting up of the nuclein.—*Medical Press and Circular*, 1895, No. 2954, p. 625.

DR. JACCOUD believes that in the treatment of non-articular gout an exclusively meat-diet will increase the uric acid and for that reason be hurtful. On the other hand, an exclusively vegetable diet will hasten arterio-sclerosis, the most formidable complication which can happen to the gouty, because this is the basis of the renal, cardiac, and cerebral lesions. The mixed diet should be prescribed, the most complete sobriety, and the most perfect regularity in the meals. Truffles, shell-fish, salt-water fishes, pork, and game are absolutely forbidden. Farinaceous food is not allowed if the patient tends to become obese. For liquids, water, white wine well diluted—for the French contain too much alcohol—and Moselle wines. Beers containing a low percentage of alcohol, French or that of Vienna, can be allowed. The strong beers—Munich, Nuremberg—are forbidden. Coffee and tea can be used in moderation. The only *régime* to be permitted is that under which the urine is abundant in quantity and of a specific gravity below the physiological normal. If at the end of a fortnight the patient does not improve, a partial milk-diet should be ordered, a quart of milk between meals, in two or three portions. If, in spite of this, sufficient improvement is not obtained, drugs must be employed. The preference is lithium benzoate, six to twelve grains in the day, generally as pills of one and one-half grains, taken at meals. After each pill a small quantity of an alkaline mineral water can be taken. This is continued for a fortnight; then it is omitted for at least a week. Piperazin and piperazidin are not more valuable than lithium. When the gouty are but slightly obese and suffer from the abdominal plethora of old writers—intestinal catarrh with constipation—in addition to the mixed diet and milk, it is necessary to administer Carlsbad salts alternately to lithium; the natural crystallized salt is preferable. The evening before, a hot solution can be made, which can be taken the following morning after taking care to agitate it once or twice. During eight days a teaspoonful in a half-glass of water should be taken. At the end of three or four days, rarely before, a laxative effect is obtained. The treatment can be omitted for five or six days, when ten days of treatment with lithium should follow; then after five

days the Carlsbad salts are repeated. The thermal springs are of the greatest importance for gouty patients who have not suffered from articular lesions. For those who have suffered, two months should elapse before they make use of them. Carlsbad is valuable from its temperature and large amount of sodium chloride and sulphate; Vichy, from its sodium bicarbonate. The indications are very different. With uricæmia, intestinal catarrh, flatulent dyspepsia, and tendency to obesity, Carlsbad is to be preferred; for lithiasis, Vichy. Both are contraindicated in even indications of cardiac conditions, and in interstitial nephritis. Other waters, less active and better borne, as Royat or Ems, should be chosen. If there are tophi, we should prefer those which contain more chlorine, of which Wiesbaden is the type, source Kochbrunnen, which can be used for drinking and bathing. For articular gout no water is preferable to it. If this is believed to be too strong, we can resort to the waters of Baden-Baden, which are very warm, or to those of Hamburg, less active because they are cold. The gouty, with a tendency to cachexia, should avoid these waters. Then we can resort to those which may be called waters of *lavage*, Martigny-les-Bains, Contréxeville, Vittel, Evian, cold alkaline waters to which it is necessary to add the lime-sulphur water of Capvern; all these are effective only when taken in large amount—eight to twelve glasses per diem. Since these are cold, they are difficult of digestion and not always well borne. Such also is Ragatz, which contains almost no mineral substance, and of which the dose is four glasses. The water as a beverage is the principal agent in treatment, but the baths are useful in chronic nervous and rheumatic affections.—*Bulletin Général de Thérapeutique*, 1895, 48e liv., p. 553.

THE ATROPINE-GROUP.

MR. GORDON SHARP notes that no group of bodies is more confusing to the student than the pupil-dilators, hyoscyamine, hyoscine, daturine, duboisine, scopolamine, and atropine. Chemically hyoscyamine appears to be identical with atropine, and pharmacologically he does not know if we can distinguish between them. Duboisine was found to be (about 1878) an impure atropine. Daturine is believed to be identical with atropine by Schmidt and Ladenburg. Hyoscine (Ladenburg's) in 1893 was believed to be identical with scopolamine by Schmidt and Hesse. Scopolamine, according to Hesse, is made up of two bases: one identical with hyoscine and the other isomeric with it, which he proposes to name atroscine. Other and conflicting views are summarized. As the results of his own observations he would say that daturine and duboisine may be called impure atropine. The varying effects obtained by different observers in the case of hyoscine and scopolamine may be accounted for on the supposition that neither is a definite base. Hyoscyamine may be supposed to be identical with atropine. Atropine is the alkaloid of which one knows most, and it may be called the fundamental or representative base; our knowledge permits us to say, at least, that in hyoscine and scopolamine we have a certain proportion of atropine along with a varying proportion of a conversion- or decomposition-product of atropine, and which we may call *α*-tropeine. Instead, then, of multiplying names, we should call atropine what is usually atropine, and get